

Factoring

Common FactoringRecall: expand $2(x-4)$

$$= 2x - 8$$

Let's work backwards...

$$4x - 20$$

$$= 4 \left(\frac{4x}{4} - \frac{20}{4} \right)$$

$$= 4(x - 5)$$

$$\begin{aligned} \text{ex 2} \quad 4x^2 + 6x + 10x^3 \\ = 2x(2x + 3 + 5x^2) \end{aligned}$$

$$\begin{aligned} \text{ex 3} \quad 5x + 25x^2 \\ = 5x(1 + 5x) \end{aligned}$$

$$\begin{aligned} \text{ex 4} \quad 6x^2y + 9xy^2 \\ 3xy(2x + 3y) \\ 6x^2y = \frac{6}{3}x^2y \\ 9xy^2 = \frac{9}{3}xy^2 \end{aligned}$$

$$\begin{aligned} \text{ex 5} \quad 4x^2 + 16x + 20 \\ 4(x^2 + 4x + 5) \end{aligned}$$

$$\begin{aligned} \text{ex 6} \quad 9x^2y + 81x^3y - 27xy^2 \\ = 9xy(x^2 + 9x^3 - 3y) \end{aligned}$$

$$\begin{aligned} \text{ex 7} \quad 10x^2yz + 5x^2y \\ = 5xy(2xz + x) \end{aligned}$$

Simple Trinomials

Recall:

$$\begin{aligned} (x+2)(x-3) \\ = x^2 - 3x + 2x - 6 \\ = x^2 - x - 6 \end{aligned}$$

$$M: -6$$

$$A: -1$$

$$N: -3, 2 \rightarrow$$

check

$$-3 + 2 = -1$$

$$-3 \times 2 = -6$$

$$\text{ex} \quad x^2 + 7x + 10$$

$$m: 10$$

$$A: 7$$

$$N: 5, 2$$

$$(x+5)(x+2)$$

Homework.

1-14 on worksheet